REMARKS

The present application was filed on April 2, 1999 with claims 1-23. In the outstanding Office Action dated January 2, 2001, the Examiner has: (i) rejected claims 1-6, 8-17 and 19-23 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,970,490 issued to Morgenstern et al. (hereinafter "Morgenstern") in view of U.S. Patent No. 5,724,571 issued to Woods (hereinafter "Woods"); and (ii) rejected claims 7 and 18 under 35 U.S.C. §103(a) as being unpatentable over Morgenstern in view of Woods and further in view of U.S. Patent No. 5,767,854 issued to Anwar (hereinafter "Anwar").

In this response, Applicant: (i) traverses the §103(a) rejections; and (ii) adds new claims 24-27 for consideration. Applicant respectfully requests reconsideration of the present application in view of the following remarks.

Applicant respectfully asserts that the combination of Morgenstern and Woods, as set forth in the outstanding Office Action, fails to establish a prima facie case of obviousness under 35 U.S.C. §103(a), as specified in M.P.E.P. §2143. As set forth therein, M.P.E.P. §2143 states that three requirements must be met to establish a prima facie case of obviousness. First, there must be some suggestion or motivation to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited combination must teach or suggest all the claim limitations. While it is sufficient to show that a prima facie case of obviousness has not been established by showing that one of the requirements has not been met, Applicant respectfully believes that none of the requirements have been met.

The present invention, for example, as recited in independent claim 1, defines a method of automating navigation between data with dissimilar structures including a source dataset containing one or more data elements and at least one target dataset containing one or more data elements. The method comprises the steps of: (i) determining at least one collection of data elements from the at least one target dataset that best matches a collection of data elements from the source dataset; and (ii) computing at least one distance metric between the at least one target collection and the source collection such that a user can select the at least one target collection given the at least one computed distance metric. Independent claim 12 defines a similar apparatus-based invention, while independent claim 23 defines a similar article of manufacture-based invention.

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Such aspects of the present invention provide many advantages. For example, as stated at page 9, line 24, through page 10, line 6, of the present specification:

> [T]he present invention provides automation for selecting datasets relevant to analysis tasks. Such automation is crucial to improving the productivity of decision support in systems management applications. The automation enabled by the invention provides value in many ways. For example, the invention makes the novice analyst more expert by providing a list of target datasets and collection descriptors that are closest to an element collection at hand (i.e., the source element collection). As a result, the novice focuses on the datasets that are most likely to be of interest in the analysis task. By way of further example, the invention makes expert analysis more productive. This is achieved by providing the target collection descriptor for each target dataset thereby enabling the construction of a system in which analysts need only click on a target dataset (or collection descriptor) in order to navigate to its associated element collection.

Morgenstern discloses, as explained at column 2, line 60, through column 3, line 6, a technique for integrating heterogeneous data with specifications for transforming source data into a common intermediate representation of the data, and transforming the intermediate representation of the data into a specialized target representation using the specifications. An information bridge is then created through a process of program generation and the source data is processed through the information bridge to provide target data wherein the target data is in a non-relational form with respect to the source data. Morgenstern goes on to explain that the purpose for proposing the technique is to address the problem of databases, used for design and engineering, employing a variety of different data models, interface languages, naming conventions, data semantics, schemas, and data representations. That is, the Morgenstern technique attempts to address a fundamental problem associated with concurrent engineering, i.e., sharing heterogeneous information from a variety of design resources.

Woods discloses, as explained in the abstract, a technique for generating responses to queries to a document retrieval system. The system responds to a specific request for information by locating and ranking portions of text that may contain the information sought. It locates small relevant passages of text (called "hit passages") and ranks them according to an estimate of the degree to which they correspond to the information sought.

First, Applicant asserts that no motivation or suggestion exists to combine Morgenstern and Woods. For at least this reason, a prima facie case of obviousness has not been established. As is evident from the above summaries of the cited references, the two references perform different techniques, generating different results, in order to attempt to achieve different purposes. Morgenstern discloses a technique for integrating heterogeneous data so that it may be shared among a variety of design resources in order to foster a concurrent design engineering environment. It does this by using high level specifications of the heterogeneous data sources (e.g., design resources) being integrated in order to drive application generators which create the necessary transformations, programs for data access, and software interfaces. The result is the generation of a specific information mediator or information bridge for use between the disparate design resources. Woods, on the other hand, discloses a technique for generating a query response in a document retrieval system by locating small relevant passages of text, called hit passages, and ranks them according to an estimate of the degree to which they correspond to the information sought.

Applicant fails to see the motivation or suggestion to combine an engineering design tool integration system (Morgenstern) with a document retrieval system (Woods). They are two completely unrelated systems. As a result, Applicant strongly believes that one ordinarily skilled in the art would not look to an engineering design tool integration system to find inspiration to improve a document retrieval system, or visa versa.

The rationale offered in the outstanding Office Action, at page 3, for combining the references is conclusory since, as will be explained below, it is not clear how the use of "ranked hit passages" from Woods would serve to improve the engineering design tool integration system of Morgenstern.

Second, Applicant asserts that there is no reasonable expectation of success in achieving the present invention through a combination of Morgenstern and Woods. For at least this reason, a prima facie case of obviousness has not been established. As mentioned above, despite the assertion in the outstanding Office Action, Applicant does not believe that Morgenstern and Woods are combinable since it is not clear why or how one would combine them. However, even if combined, for the sake of argument, they would not achieve a

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technique for automatically navigating between data with dissimilar structures including a source dataset containing one or more data elements and at least one target dataset containing one or more data elements, as the invention provides.

Lastly, Applicant asserts that the combination of Morgenstern and Woods fails to teach or suggest all of the claim limitations of independent claims 1, 12 and 23. For at least this reason, a prima facie case of obviousness has not been established. Again, assuming for the sake of argument that Morgenstern and Woods could be properly combined, which for at least the reasons above it is believed that they can not be properly combined, the combination fails to teach or suggest all claim elements in independent claims 1, 12 and 23. The inventive steps (or operations) comprise determining at least one collection of data elements from at least one target dataset which best matches a collection of data elements from a source dataset; and then computing at least one distance metric between the target collection and the source collection such that the user can select the target collection. First, despite the contention in the outstanding Office Action, Morgenstern does not *determine a target collection which best matches a source collection* from at least one target dataset, rather, it integrates heterogeneous design resources. Second, Woods uses a similarity measure to retrieve a document in response to a query. The invention computes distance metrics between the target collections and the source collection after the target collections are determined. Thus, there are significant differences between the claimed invention and the suggested combination of Morgenstern and Woods.

It is further respectfully asserted that Anwar fails to remedy the deficiencies described above with respect to Morgenstern and Woods.

For at least the reasons given above, Applicant respectfully requests withdrawal of the §103(a) rejections of independent claims 1, 12 and 23. Further, not only due to their respective dependence on such independent claims but also because such claims recite patentable subject matter in their own right, Applicant respectfully requests withdrawal of the §103(a) rejections of dependent claims 2-11 and 13-22.

Applicant also presents new claims 24-27 for consideration. Such new claims are presented to provide a varying scope of the invention but are not intended to be narrower

than the originally filed claims 1-23. New claims 24-27 are believed to be patentable over the cited references for at least the same reasons given above.

For at least the foregoing reasons, claims 1-27 are believed to be patentable over the cited references. As such, the application is asserted to be in condition for allowance, and favorable action is respectfully solicited.

Attached hereto is a marked-up version of the changes made to the specification and claims by the present amendment. The attached pages are captioned "Versions with Markings to Show Changes Made."

Respectfully submitted,

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Date: May 2, 2001

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

The paragraph beginning at page 5, line 25, has been amended as follows:

Considered next is data organized as MDDB, as described in R.F. Berry and J.L. Hellerstein, "A Flexible and Scalable Approach to Navigating Measurement Data in Performance Management Applications," Second IEEE Conference on Systems Management, Toronto, Canada, June, 1996. Conceptually, such an organization can be viewed as a layer on top of the relational model. The MDDB structures attributes into dimensions. Within a dimension, attributes may be further structured into a directed acyclic graph (DAG). Here, a dataset is a cube (a MDDB schema along with its base data), an element is a cell within a cube, and a collection descriptor is a *where* clause that abides by the hierarchical structure imposed by the MDDB. In the example above, there might be dimensions for Time, Configuration Element, Workload and Metric. In the source dataset, the Workload dimension may contain the attributes division, department, user, and transaction, ordered in this manner. Thus, the coordinate for this dimension would be division=25, department=MVXD, user=ABC, and transaction=_XX.

IN THE CLAIMS

New claims 24-27 have been added as follows:

--24. (New) A computer-based method of automatically navigating between data with dissimilar structures including a source dataset containing one or more data elements and a plurality of target datasets respectively containing one or more data elements, the method comprising the steps of:

determining one or more collections of data elements from the plurality of target datasets that best match a collection of data elements from the source dataset, the determination being based on the structures associated with the source dataset and the plurality of target datasets; and

computing one or more distance metrics between the one or more target collections and the source collection.

25. (New) The method of Claim 24, wherein the determining step further comprises the steps of:

generating one or more preliminary target collection descriptors associated with the one or more target collections by transforming a source collection descriptor associated with the source collection; and

removing constraints associated with the one or more preliminary target collection descriptors until a non-null element collection is obtained.

26. (New) Apparatus for automatically navigating between data with dissimilar structures including a source dataset containing one or more data elements and a plurality of target datasets respectively containing one or more data elements, the apparatus comprising:

means for determining one or more collections of data elements from the plurality of target datasets that best match a collection of data elements from the source dataset, the determination being based on the structures associated with the source dataset and the plurality of target datasets; and

means for computing one or more distance metrics between the one or more target collections and the source collection.

27. (New) The apparatus of Claim 26, wherein the determining means further comprises:

means for generating one or more preliminary target collection descriptors associated with the one or more target collections by transforming a source collection descriptor associated with the source collection; and

means for removing constraints associated with the one or more preliminary target collection descriptors until a non-null element collection is obtained.--